

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

- 1 1. (Currently Amended) A method of animating fluid, comprising:
2 determining a fluid surface at a first time value according to a fluid simulation;
3 adding at least one spray particle beneath the fluid surface, the spray particle
4 having an initial state derived at least in part from the attributes of the fluid ~~surface~~
5 simulation; and
6 moving the spray particle independently of the fluid simulation according to at
7 least its initial state.
8 rendering the fluid surface; and
9 rendering the spray particle in response to the spray particle being above the
10 fluid surface.
- 1 2. (Cancelled)
- 1 3. (Original) The method of claim 1, wherein determining a fluid surface
2 comprises:
3 solving a level set equation to determine a zero level corresponding to the
4 fluid surface.
- 1 4. (Original) The method of claim 3, wherein determining a fluid surface
2 further comprises:
3 simulating a set of fluid particles to determine a state of the set of fluid
4 particles at the first time value; and
5 solving the level set equation to determine the zero level using the state of the
6 set of fluid particles.
- 1 5. (Original) The method of claim 3, wherein adding at least one spray
2 particle comprises:
3 solving the level set equation to determine a non-zero level corresponding to a
4 boundary surface; and
5 adding the spray particle to a boundary region between the fluid surface and
6 the boundary surface.

1 6. (Original) The method of claim 1, wherein adding at least one spray
2 particle comprises adding the spray particle to a region within a specified depth from the fluid
3 surface.

1 7. (Currently Amended) The method of claim 1, wherein moving the
2 spray particle comprises moving the spray particle in accordance with a ballistic simulation
3 based upon at least the initial state of the spray particle.

1 8. (Original) The method of claim 7, wherein the ballistic simulation
2 includes an approximation of the force of gravity on the spray particle.

1 9. (Original) The method of claim 6, further comprising:
2 removing the spray particle in response to the spray particle being below the
3 specified depth from the fluid surface.

1 10. (Original) The method of claim 5, further comprising:
2 removing the spray particle in response to the spray particle being below the
3 boundary surface.

1 11. (Currently Amended) The method of claim 1, further comprising:
2 determining the fluid surface at a second time value according to the fluid
3 simulation;
4 adding at least one additional spray particle beneath the fluid surface, the
5 additional spray particle having an initial state derived at least in part from the attributes of
6 the fluid ~~surface~~simulation; and
7 moving the spray particle and the additional spray particle independently of
8 the fluid simulation according to at least their respective initial states.

1 12. (Currently Amended) A method of animating a fluid, comprising:
2 determining a state of a set of fluid particles at a first instance of time using a
3 fluid simulation;
4 defining a fluid surface from the state of the set of fluid particles;
5 defining a boundary region between the fluid surface and a specified depth
6 from the fluid surface;

adding a plurality of spray particles to the boundary region, wherein the plurality of spray particles is assigned an initial state based derived at least in part from the state of the set of fluid particles;

moving the plurality of spray particles independently of the fluid simulation according to at least the initial state of the plurality of spray particles; and

removing a portion of the plurality of spray particles in response to the portion of the plurality of spray particles being located below the specified depth from the fluid surface;

rendering the fluid surface; and

rendering a second portion of the plurality of spray particles.

13. (Cancelled)

14. (Currently Amended) The method of claim ~~13~~12, wherein the second portion of the plurality of spray particles is located above the fluid surface.

15. (Original) The method of claim 12:

wherein determining the fluid surface comprises solving a level set equation for a zero level corresponding to the fluid surface; and

wherein determining the boundary region comprises solving the level set equation for a non-zero level corresponding to a surface at the specified depth from the fluid surface.

16. (Original) The method of claim 12, wherein moving the plurality of spray particles comprises:
moving the plurality of spray particles in accordance with a ballistic simulation.

17. (Currently Amended) An information storage medium having a set of instructions adapted to direct an information processing device to perform an operation comprising the steps of:

determining a fluid surface at a first time value according to a fluid simulation;

adding at least one spray particle beneath the fluid surface, the spray particle having an initial state derived at least in part from the attributes of the fluid ~~surface~~ simulation; and

moving the spray particle independently of the fluid simulation according to at least its initial state;
rendering the fluid surface; and
rendering the spray particle in response to the spray particle being above the fluid surface.

18. (Cancelled)

19. (Original) The information storage medium of claim 17, wherein determining a fluid surface comprises:
solving a level set equation to determine a zero level corresponding to the fluid surface.

20. (Original) The information storage medium of claim 19, wherein determining a fluid surface further comprises:
simulating a set of fluid particles to determine a state of the set of fluid particles at the first time value; and
solving the level set equation to determine the zero level using the state of the set of fluid particles.

21. (Original) The information storage medium of claim 19, wherein adding at least one spray particle comprises:
solving the level set equation to determine a non-zero level corresponding to a boundary surface; and
adding the spray particle to a boundary region between the fluid surface and the boundary surface.

22. (Original) The information storage medium of claim 17, wherein adding at least one spray particle comprises adding the spray particle to a region within a specified depth from the fluid surface.

23. (Currently Amended) The information storage medium of claim 17, wherein moving the spray particle comprises moving the spray particle in accordance with a ballistic simulation based upon at least the initial state of the spray particle.

1 24. (Original) The information storage medium of claim 23, wherein the
2 ballistic simulation includes an approximation of the force of gravity on the spray particle.

1 25. (Original) The information storage medium of claim 22, further
2 comprising:
3 removing the spray particle in response to the spray particle being below the
4 specified depth from the fluid surface.

1 26. (Original) The information storage medium of claim 21, further
2 comprising:
3 removing the spray particle in response to the spray particle being below the
4 boundary surface.

1 27. (Currently Amended) The information storage medium of claim 17,
2 further comprising:
3 determining the fluid surface at a second time value according to the fluid
4 simulation;
5 adding at least one additional spray particle beneath the fluid surface, the
6 additional spray particle having an initial state derived at least in part from the attributes of
7 the fluid ~~surface~~simulation; and
8 moving the spray particle and the additional spray particle according to at least
9 their respective states.

1 28. (Original) A tangible media including a first image including a fluid
2 surface and a spray particle each having a first state, and a consecutive image including the
3 fluid surface and the spray particle each having a second state, wherein the first and second
4 states of the spray particle are created according to the method of claim 1.

1 29. (Original) A tangible media including a first image including a fluid
2 surface and a plurality of spray particles each having a first state, and a consecutive image
3 including the fluid surface and the plurality of spray particles each having a second state,
4 wherein the first and second states of the plurality of spray particle are created according to
5 the method of claim 12.